

APPLICATION  
FOR  
UNITED STATES LETTERS PATENT

TITLE: ORTHOGONAL FREQUENCY DIVISION  
MULTIPLEXING RECEIVER DEVICE

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# ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING RECEIVER DEVICE

## CROSS REFERENCE TO RELATED APPLICATION

This application is based on and incorporates herein  
5 by reference Japanese Patent Application No. 2000-46799 filed  
February 18, 2000.

## BACKGROUND OF THE INVENTION

10 The present invention relates to an orthogonal  
frequency division multiplexing (OFDM) receiver device in  
communication systems utilizing an orthogonal frequency division  
multiplexing system.

15 Recent communication systems are required to transmit  
large capacity data such as video information or the like as the  
digital value not only with wire transmission system but also  
with radio transmission system. In this case, it is essential  
to introduce not only the Phase Shift Keying system to modulate  
the phase with the information by utilizing difference of phase  
such as BPSK and QPSK or the like but also the Quadrature Amplitude  
Modulation system to modulate the phase and amplitude with the  
20 information by utilizing differences of phase and amplitude such  
as 16QAM and 64QAM or the like. The signal modulated with the  
QAM method such as 16QAM and 64QAM is transmitted from a  
transmitter. The transmitted signals is then received by a  
receiver device through the transmission path, and demodulated  
25 to the original data through the synchronous detection.

In this case, when the wired transmission path is used,  
any problem does not occur. However, when the radio or wireless